

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 16-30 and 32-36 are in this application. Claims 1-15 and 31 have been cancelled. Claims 16-21, 24-30, and 32-35 have been amended. Claim 36 has been added to additionally claim the present invention. In addition to the amendments discussed below, the claims have also been amended to alternately claim the present invention.

The Examiner rejected claims 32-35 under 35 U.S.C. §112, first paragraph. The Examiner argued that there is no support in the originally-filed specification for "a top opening." In the Advisory Action, the Examiner also argued that "a top opening" fails to satisfy 37 CFR §1.75(d), which requires that "the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." In the after-final response, applicant identified the clear support that is provided by the originally-filed description for the claim terms so that the meaning of the terms in the claims may be ascertainable by reference to the description.

However, if an effort to further prosecution, claim 32 has been amended to recite:

"The electronics cabinet of claim 16 wherein the exterior surface includes a third air opening spaced apart from the second air opening, the second mounting openings in the exterior surface being formed around the third air opening."

The second air opening can be read to be, for example, the left opening of the three openings 220A shown in FIG. 2 of applicant's originally-filed specification. In addition, the third air opening can be read to be, for example, the right opening of the three openings 220A shown in FIG. 2 of applicant's originally-filed

specification. Further, the second mounting openings (that are formed around both the second air opening and the third air opening) can be read to be, for example, openings 220C. Thus, from what can be determined, claims 32-35 satisfy the requirements of the first paragraph of section 112 and 37 CFR §1.75(d).

The Examiner rejected claims 16-22 under 35 U.S.C. §103(a) as being unpatentable over Kormos (DE 197 09 145) in view of Jiyosefu (JP 03-250698) and further in view of Hawks (U.S. Patent No. 6,637,374). For the reasons set forth below, applicant respectfully traverses this rejection.

Claim 16 recites:

"an enclosure, an exterior surface of the enclosure having a first air opening, a second air opening, a number of first mounting openings formed around the first air opening, and a number of second mounting openings formed around the second air opening, the second mounting openings not being formed around the first air opening, a first mounting opening lying directly between the first air opening and the second air opening, a second mounting opening lying directly between the first air opening and the second air opening; and

"a heat exchanger attached to the enclosure such that an interior of the enclosure and an interior region of the heat exchanger form an air tight and water tight unit, no part of the heat exchanger extending into the enclosure."

In rejecting the claims, the Examiner pointed to FIGS. 1-2 and 8-10 of Kormos as teaching a heat exchanger that is mounted entirely on the outside of an electronics cabinet. In addition, the Examiner pointed to "fastening means" 43 shown in FIGS. 1 and 7, and argued that "fastening means" 43 appear to accept a bolt that passes through "fastening means" 43 and plate 4 of the cabinet.

Applicant assumes that the Examiner has read the lower opening in plate 4 of the cabinet (that is associated with dashed air flow line 7) shown in FIG. 2 of Kormos to be the first air opening required by claim 16. Applicant further assumes that the Examiner has read the upper opening in plate 4 of the cabinet (that is

associated with dashed air flow line 14) shown in FIG. 2 of Kormos to be the second air opening required by claim 16. (Applicant notes that FIG. 7 of Kormos shows an exploded view of another embodiment.)

Applicant also assumes that the Examiner has read the mounting openings formed through plate 4 of the cabinet that coincide with "fastening means" 43 to be the first and second mounting openings required by claim 16. The Kormos reference, however, does not teach or suggest that a first mounting opening and a second mounting opening lie directly between the first air opening and the second air opening as required by claim 16.

With respect to Jiyosefu, the Examiner also appears to point to air passages 28 and 29 (30) in plate 26 (label 30 refers to two elements) shown in FIG. 10 of Jiyosefu as constituting the first and second air openings required by claim 16, and apertures 24 shown in FIG. 10 of Jiyosefu as constituting the first and second mounting openings required by claim 16. Jiyosefu, however, fails to teach or suggest that apertures 24 are formed between air passages 28 and 29 (30).

With respect to Hawks, the Examiner appears to point to air intake 37 and air discharge 39 shown in FIG. 2 of Hawks as constituting the first and second air openings required by claim 16, and holes 33a and 33b shown in FIG. 2 of Hawks as constituting the first and second mounting openings required by claim 16. However, Hawks fails to teach or suggest that holes 33a and 33b are formed directly between air intake 37 and air discharge 39. Thus, neither Kormos, Jiyosefu, nor Hawks teaches or suggests mounting openings that lie directly between the first and second air openings.

More importantly, even if the Examiner could point to a reference that illustrates holes that lie directly between the first and second air openings, one skilled in the art would not be motivated to form a first mounting opening and a second mounting opening in plate 4 (directly between the lower opening in the cabinet associated with dashed air flow line 7 and the upper opening associated with

dashed air flow line 14) because it would not be possible to connect "mounting means" 43 between the heat exchanger and plate 4.

Thus, since Kormos (DE 197 09 145) in view of Jiyosefu (JP 03-250698) and further in view of Hawks do not teach or suggest first and second mounting openings that lie directly between the first and second air openings, and since it is not possible to connect "mounting means" 43 between the heat exchanger and plate 4 (in a region between the lower and upper air openings), claim 16 is patentable over Kormos in view of Jiyosefu and further in view of Hawks. In addition, since claims 17-22 depend either directly or indirectly from claim 16, claims 17-22 are patentable over Kormos in view of Jiyosefu and further in view of Hawks for the same reasons as claim 16.

The Examiner also rejected claims 24-35 under 35 U.S.C. §103(a) as being unpatentable over Kormos (DE 197 09 145) in view of Jiyosefu (JP 03-250698) in view of Hawks (U.S. Patent No. 6,637,374) and further in view of Koltuniak (U.S. Patent No. 3,396,780). In rejecting the claims, the Examiner appears to argue that Kormos in view of Jiyosefu and Hawks teach all of the limitations of claim 16.

However, as indicated above, claim 16 is patentable over Kormos in view of Jiyosefu and Hawks. As a result, since claims 24-30 and 32-35 depend from claim 16, claims 24-30 and 32-35 are patentable over Kormos in view of Jiyosefu and Hawks and further in view of Koltuniak for the same reasons that claim 16 is patentable over Kormos in view of Jiyosefu and Hawks.

With further respect to claim 26, this claim recites:

"a size of the second air opening in the exterior surface being less than a size of the second air opening in the exterior plate; and

"a size of the first air opening in the exterior surface and a size of the first air opening in the exterior plate are substantially equal."

In rejecting the claims, the Examiner pointed to Koltuniak, and argued that it would have been obvious to have added screens 64 and 70 of Koltuniak to the upper and lower openings in the cabinet of Kormos to prevent dust and debris from entering the cabinet when the heat exchanger is removed for servicing. However, one skilled in the art would not be motivated to place screens over the lower and upper openings in plate 4 of Kormos because the screens would substantially reduce the heat that can be removed from the cabinet while providing no benefit.

If screens were placed over the lower and upper openings in plate 4 of Kormos, the screens would significantly impede the flow of air through the heat exchanger. Reducing the flow of air through the heat exchanger reduces the heat load that can be removed from the cabinet which, in turn, can lead to the failure of the electronic components within the cabinet. In addition, the screens would not prevent any dust from entering the cabinet.

Further, one skilled in the art would not be motivated to take costly steps to prevent debris from entering a cabinet from one opening if debris can easily enter the cabinet from another opening. In the present case, debris can easily enter the cabinet each time the doors are opened to service or replace the electronic components in the cabinet. Thus, one skilled in the art would not be motivated to place screens over the lower and upper openings in plate 4 of Kormos because these costly steps do not prevent debris from entering the cabinet through the open doors, do not prevent dust from entering the cabinet, and significantly reduce the heat load that can be removed from the cabinet.

Following this, the Examiner next argued that because screens take up a finite area the combined cross-section of the screened passage is always less than the cross-section of the corresponding unscreened passageway having the same perimeter. Applicant respectfully does not understand the argument set forth by the Examiner.

The Kormos reference appears to teach that the lower and upper openings in plate 4 of the cabinet and the upper and lower openings in the heat exchanger are the same size. If the Examiner reads a lower screen over the lower air opening and an upper screen over the upper air opening to be part of plate 4 (read to be the exterior surface), and one of the small openings in the upper screen to be the second air opening required by claim 26, then the Examiner must read one of the small openings in the lower screen to be the first air opening required by claim 26.

In this case, although the size of the small upper air screen opening (read to be the second air opening) in plate 4 is less than the size of the upper air opening in the heat exchanger, the size of the lower air screen opening (read to be the first air opening) in plate 4 and the size of the lower air opening in the heat exchanger are not substantially equal as required by claim 26. Thus, from what can be determined, claim 26 is patentable over Kormos in view of Jiyosefu and Hawks and further in view of Koltuniak for these additional reasons.

With respect to new claim 36, this claim recites:

"wherein no portion of a fastener lies outside of the interior of the enclosure and the interior region of the heat exchanger."

However, from what applicant can determine, neither Kormos, Jiyosefu, nor Hawks teach or suggest this limitation. As shown in FIG. 1 of Kormos, the "fastening means" 43 lies outside of the interior region of the heat exchanger. FIG. 10 of Jiyosefu shows that apertures 24 are in register with a flange that lies outside of heat exchanger 20. In addition, FIG. 2 of Hawks shows that holes 33a and 33b lies outside of the enclosure. Thus, from what can be determined, claim 36 is patentable over Kormos in view of Jiyosefu and further in view of Hawks.

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Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Respectfully submitted,

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